SUMMARY REPORT OF THE WORKSHOP

"Food consumption data needs for the assessment of dietary exposure to flavourings in the EU"

28 September 2007 – Rome, Italy

EFCOVAL
WORK PACKAGE 4
Dietary Exposure Assessment

Summary report prepared by C. Le Donne & C. Leclercq
National Research Institute for Food and Nutrition ,Rome, Italy (WP4)

The workshop took place within the EFCOVAL project with the financial support of the European Community, Contract number: FOOD-CT-2006-022895

National Research Institute for Food and Nutrition
Rome, Italy
www.inran.it

SIXTH FRAMEWORK PROGRAMME

WORKSHOP AGENDA

Time	Description	Speakers
8.30 – 9.00	Welcome coffee	
9.00 – 9.15	Welcome introduction	Carlo Cannella (President of INRAN)
9.15 – 9.30	Background and aim of the workshop	Catherine Leclercq (INRAN - WP4 leader)
9.30 – 11.00	**PART I** **Why do we need exposure data?** **Risk assessment and risk management**	
9.30 – 10.00	History of exposure assessment of flavourings at EU level	Davide Arcella (EFSA)
10.00 – 10.30	Exposure data needs for risk management at EU level: the positive list	Wim Debeuckelaere (European Commission – DG SANCO)
10.30 – 11.00	Exposure assessment of flavourings in the international setting of JECFA and CODEX	Annika Wenberg (FAO JECFA Secretariat)
11.00 – 11.30	Coffee break	
11.30 – 12.00	Characterization of the uncertainty in exposure assessment of flavourings	Max Feinberg (INRA)
12.00 – 13.15	**PART II** **Occurrence data**	
12.00 – 12.15	Food labels as a source of data on the occurrence of flavourings	Cinzia Le Donne (INRAN)
12.15 – 12.45	Availability of information in relation to the concentration of flavourings in foods	Karl Heinz Engel (TUM)
12.45 – 13.15	Monitoring of flavourings in food at national level: the French experience	Jean-Luc Volatier (AFSSA)
13.15 – 14.30	Lunch: Isidoro restaurant	
14.30 – 17.00	**PART III** **Consumption data**	
14.30 – 15.00	Limitations of the food consumption surveys performed at EU level for the assessment of dietary exposure to flavourings.	Catherine Leclercq (INRAN)
15.00 – 15.30	Possible adaptations of the EPIC SOFT databases to assess dietary exposure to flavourings	Marga Ockè (RIVM)
15.30 – 17.00	Discussion and recommendations from EFCOVAL partners and from external invited experts	
	Closing of the workshop	

PARTECIPANTS LIST

Invited speakers not involved in the EFCOVAL project:

Name	Organization
Annika Wenberg	FAO JECFA Secretariat - Food and Agriculture Organization, Joint FAO/WHO Expert Committee on Food Additives, Italy
Davide Arcella	EFSA – European Food Safety Authority, Italy
Wim Debeuckelaere	European Commission, DG SANCO, Belgium
Karl Heinz Engel	TUM - Technischen Universität München, Germany

Other invited participants:

Name	Organization
Barbara Burlingame	FAO - Food and Agriculture Organization, Italy
Ruth Charrondière	FAO - Food and Agriculture Organization, Italy
Marie Claude Dop	FAO - Food and Agriculture Organization, Italy
Riccardo Crebelli	ISS – Superior Institute of Health, Italy
Astrid Kruizinga	TNO – Netherlands Organization for Applied Scientific Research, The Netherlands

Participants from EFCOVAL partners:

Name	Organization
Carlo Cannella	INRAN – National Research Institute for Food and Nutrition, Italy
Catherine Leclercq	
Cinzia Le Donne	
Raffaela Piccinelli	
Stefania Sette	
Pasquale Buonocore	
Marika Ferrari	
Antonio Raffo	
Ellen Trolle Tue Christensen	DFVF – Danish Institute for Food and Veterinary Research, Denmark
Pilar Amiano	BIOEF - Fundación Vasca de Innovación e Investigación Sanitarias, Spain
Max Feinberg	INRA - Institut National de la Recherche Agronomique, France
Inge Huybrechts	IARC - International Agency for Research on Cancer, France
Marga Ocké Wanda Wendel-Vos	RIVM - National Institute for Public Health and the Environment, The Netherlands
Anouk Geelen Jeanne de Vries Olga Soeverein Sandra Crispim	WU - Wageningen University, The Netherlands
Lene Frost Andersen Inger T. L. Lillegaard	UiO – University of Oslo, Norway
Jiri Ruprich	NIPH - National Institute of Public Health, Czech Republic
Jean-Luc Volatier	AFSSA - Agence Française de Sécurité Sanitaire des Aliments, France

BACKGROUND AND AIM OF THE WORKSHOP

The EFCOVAL (European Food Consumption Validation) project is a EU project funded within the VI Framework Programme. It aims at the further development and validation of a trans-European food consumption method to be used for estimation of the intake of foods, nutrients and potentially hazardous chemicals within the European adult population. As recommended by the EFCOSUM consortium, the computerized repeated 24-hour dietary recall method using EPIC-SOFT will be applied as the method for pan-European nutritional surveys to assess intake at an individual level.
Within the EFCOVAL project, INRAN is leader of the Work Package 4 "Dietary Exposure Assessment". The main objective of this Work Package is to provide specific recommendations on how to adapt the method being designed to assess dietary intake at an individual level (EPIC-SOFT) for use in the assessment of dietary exposure to a specific category of potentially hazardous substances.
In line with the technical Annex of the project, attention was focused on one category of chemical substances present in the diet. The target category chosen was 'Flavouring substances'. Within the target category a limited number (maximum 4) of specific food chemicals have been selected in order to give practical examples all over the process of EPIC-SOFT adaptations: coumarin, glycyrrhizinic acid, raspberry ketone, caffeine.
The workshop *"Food consumption data needs for the assessment of dietary exposure to flavourings in the EU"* has been organised in order to involve both EFCOVAL partners and experts in exposure assessment at European level not involved in the EFCOVAL project in the tasks of the Work Package. In particular, the collaboration of experts involved in exposure assessment within international organizations (above all EFSA, FAO, WHO and European Commission) has been searched.

SHORT WORKSHOP REPORT

The workshop has been organized into three main sections.

PART I
Why do we need exposure data? Risk assessment and risk management

Main issues dealt in the presentations:
This section introduced the topic of flavourings in terms of data needs for risk management and risk assessment at European and international level with particular attention for the issue of the uncertainty in exposure assessment of flavourings.
The evolution in time of the procedures used for the safety evaluation of flavourings used by Joint FAO/WHO Expert Committee on Food Additives (JECFA), Codex Alimentarius Commission, Scientific Committee on Food (SCF) and European Food Safety Authority (EFSA) has been presented. Critical aspects of the different methods used to assess exposure to flavourings such as MSDI (Maximised Survey-Derived Daily Intake), TAMDI (Theoretical Added Maximum Daily Intake), mTAMDI (modified Theoretical Added Maximum Daily Intake), PADI (Possible Average Daily Intake) and SPET (Single-Portion Exposure Technique) were illustrated. An update on the status of the legislation on flavourings at EU level was provided.
The characterization of the uncertainty in exposure assessment of flavourings was tackled in terms of uncertainty of the analytical measurements and of the measurement of consumption.

Main points of discussion:
The limitations of the exposure assessment method based on poundage data was lengthily discussed. It was noted that an ideal method does not exist currently and that reliable data on the concentration of flavourings in food are needed to assess dietary exposure to flavourings. The establishment of a positive list of flavouring substances at EU level was discussed and the novelties of the new Regulation on flavourings were discussed.

PART II
Occurrence data

Main issues dealt in the presentations:
The aim of the second section was to identify and discuss critical points in relation to the availability of data on occurrence of flavourings in food. These data are needed for the development of models of dietary exposure to flavourings. In particular, the source of data on the presence/absence of flavourings in food and on their concentration levels were discussed. The French experience for the monitoring of dietary exposure to flavourings was presented.
Food labels were described as a source of data for some specific flavourings. In particular the list of ingredients and the name under which the product is sold can be useful to identify the presence/absence of flavourings.
In particular, the attention was focused on the concept of odour threshold, on the broad range of possible concentrations of flavourings in foods, on the large use of flavouring substances as complex mixtures rather than as single substances, on the difficulties to differentiate added flavouring substances from naturally present aroma compounds, on the variability of concentrations depending on food matrix and on the loss of flavouring substances owed to food processing.

Main points of discussion:
It was noted that there may be some useful information in relation to the presence/absence of flavourings on the packaging of food products but that the collection of such data is very labour intensive. It was pointed out that according to the flavourings directive 88/388/EEC there is no obligation to refer on the label the source of natural flavourings. The new regulation on flavouring substances that makes it compulsory to mention the source of natural flavouring was considered a positive step forward towards transparency.

PART III
Consumption data

Main issues dealt in the presentations:
The last section was focused on the limitations of the food consumption surveys performed at EU level for the assessment of dietary exposure to flavourings. As a starting point for the discussion, the preliminary results of the 'Short questionnaire on the current use of food consumption data for the assessment of dietary exposure to chemical substances in the EU' developed and administered by INRAN within the EFCOVAL project were presented. Its aim was to perform a critical analysis of current use of existing databases by risk assessors involved in the assessment of dietary exposure to potentially hazardous substances.

The potentialities of the EPIC-SOFT databases for the collection of data on consumption of flavoured foods were illustrated. The use of the EPIC-SOFT software makes it possible to collect information at brand level and the food items can be characterized at a high level of detail through the use of the facets that contain the descriptors. The adaptations performed during the EFCOVAL project for the assessment of dietary exposure to 4 target flavourings (coumarin, glycyrrhizinic acid, raspberry ketone, caffeine) were presented.

Main points of discussion:
The main point of discussion was the possible use of the adapted EPIC SOFT databases to assess dietary exposure to flavourings. It was extensively discussed.
It was noted that a main limitation of the recall technique is the necessity for the subject to remind a lot of information such as the brand name. One suggestion was that subjects could record the brands but this may result in modification of consumption behaviour and in lower participation rates. However it was noted that in a number of cases, the information on the flavour of the product would be sufficient and that it may be easier for subjects to remember the flavour of a food than its brand.
It was noted that the descriptors of flavours that are currently present in the EPIC SOFT database are limited number and are not representative.
It was underlined that having a long list of possible flavours can influence the duration of the interview.
It was made clear that the assessment of dietary exposure to flavourings added to foods is a huge and complex task and that the exercise performed in the EFCOVAL project in relation to a limited number of target flavourings will of course not allow to solve the whole issue. However such exercise was considered as a small but positive step in the direction of increasing knowledge and decreasing uncertainty in the area of dietary exposure to flavourings.